

Electronic Supporting information

Gold nanoparticle decorated dithiocarbamate modified natural boehmite as a catalyst for the synthesis of biologically essential propargylamines

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1-(1,3-diphenylprop-2-yn-1-yl)piperidine: ¹H NMR (CDCl₃, 500 MHz): δ_{H} (ppm) 1.46 (s, 3H, NCH₂CH₂CH₂), 1.60-1.66 (m, 6H, NCH₂CH₂CH₂), 2.59 (s, 4H, NCH₂CH₂CH₂), 4.83 (s, 1H of NCH), 7.32-7.40 (m, 6H of Ar), 7.53-7.55 (m, 2H of Ar), 7.65 (d, ³J_{HH} = 7Hz, 2H).

4-(1,3-diphenylprop-2-yn-1-yl)morpholine: ¹H NMR (CDCl₃, 500 MHz): δ_{H} (ppm) 2.66 (s, 2H, NCH₂CH₂O), 3.76 (t, ³J_{HH} = 5.5 Hz, 4H, NCH₂CH₂O), 4.82 (s, 1H of NCH), 7.33-7.41 (m, 6H of Ar), 7.53-7.55 (m, 2H of Ar), 7.64 (d ³J_{HH} = 7.5 Hz, 2H). ¹³C NMR (125 MHz, CDCl₃): δ_{C} (ppm) 62.03 (NCH), 67.17 (NCH₂CH₂O), 85.03 (Ph-C≡C), 88.48 (HCN-C≡C), 122.97, 127.78, 128.23, 128.31, 128.59, 131.81, 137.79.

4-(3-phenyl-1-(p-tolyl)prop-2-yn-1-yl)morpholine: ¹H NMR (CDCl₃, 500 MHz): δ_{H} (ppm) 2.66 (s, 3H of Me), 2.71-2.62 (m, 4H, NCH₂CH₂O), 3.80-3.71 (m, 4H, NCH₂CH₂O), 4.87 (s, 1H of NCH), 7.22-7.19 (m, 2H of Ar), 7.36-7.33 (m, 3H of Ar). ¹³C NMR (125 MHz, CDCl₃): δ_{C} (ppm)

31.7 (CH₃), 50.7 (NCH₂CH₂O), 61.7 (NCH), 67.9 (NCH₂CH₂O), 85.3 (Ph-C≡C), 88.5 (HCN-C≡C), 123.2, 128.3, 128.4, 128.6, 129.1, 131.7, 135.6, 137.6.

1-(1-(2-chlorophenyl)-3-phenylprop-2-yn-1-yl)piperidine: ¹H NMR (CDCl₃, 500 MHz): δ_H (ppm) 1.44 (t, ³J_{HH} = 5.5 Hz, 2H, NCH₂CH₂CH₂), 1.57-1.61 (m, 4H, NCH₂CH₂CH₂), 2.63 (t, ³J_{HH} = 5.5 Hz, 4H, NCH₂CH₂CH₂), 5.12 (s, 1H of NCH), 7.25-7.29 (m, 2H of Ar), 7.34 (t, ³J_{HH} = 6.5 Hz, 2H of Ar), 7.51-7.53 (m, 1H of Ar), 7.76-7.77 (m, 1H of Ar). ¹³C NMR (125 MHz, CDCl₃): δ_c (ppm) 24.45 (NCH₂CH₂CH₂), 26.14 (NCH₂CH₂CH₂), 50.70 (NCH), 59.25 (NCH₂CH₂CH₂), 85.81 (Ph-C≡C), 87.63 (HCN-C≡C), 123.17, 126.17, 128.13, 128.27, 128.76.

1-(1-(2-chlorophenyl)-3-phenylprop-2-ynyl)morpholine: ¹H NMR (CDCl₃, 500 MHz): δ_H (ppm) 2.69 (t, ³J_{HH} = 4.5 Hz, 4H, NCH₂CH₂O), 3.68-3.77 (m, 4H, NCH₂CH₂O), 4.95 (s, 1H of NCH), 7.29-7.36 (m, 5H of Ar), 7.42-7.44 (m, 1H of Ar), 7.51-7.53 (m, 2H of Ar), 7.76 (t, ³J_{HH} = 2.5 Hz, 1H of Ar).